

WHAT IS CLAIMED IS:

- 5           1.       A hook strand having a base layer with at least a first face and a second face  
with hook elements extending in at least one row from at least one face having hook engaging  
arms extending at an angle of from 1 to 90 degrees from the longitudinal direction of the  
strand.
- 10           2.       A hook strand of claim 1 wherein the hook strand is formed from a  
thermoplastic resin and the hook engaging arms extend at an angle of from 30 to 90 degrees  
from the longitudinal direction of the strand.
- 15           3.       A hook strand of claim 2 wherein the hook strand is formed from an inelastic  
resin.
4.       A hook strand of claim 3 wherein the hook strand is formed from multiple  
layers of thermoplastic resins.
- 20           5.       A hook strand of claim 1 wherein the hook engaging arm extends at an angle of  
from 30° to 90° from the longitudinal direction of the strand.
6.       A hook strand of claim 1 wherein the hook engaging arms extend from two or  
more faces of the base layer.
- 25           7.       A hook strand of claim 6 wherein the hook engaging arms extend from three or  
more faces of the base layer.
8.       A hook strand of claim 1 wherein the hook engaging arms extend from a face  
in a single row.

9. A hook strand of claim 1 wherein the hook elements are substantially rectilinear.
- 5 10. A hook strand of claim 9 wherein the hook elements have two opposing flat faces.
- 10 11. A hook strand of claim 8 wherein there are from 10 to 50 hook elements per centimeter.
12. A hook strand of claim 8 wherein there are from 20 to 40 hook elements per centimeter.
- 15 13. A hook strand of claim 1 wherein there are at least 5 hook elements per centimeter.
14. A hook strand of claim 1 wherein there are at least 10 hook elements per centimeter.
- 20 15. A hook strand of claim 1 wherein the base layer is an oriented thermoplastic resin.
16. A hook strand of claim 15 wherein the base layer is essentially flat.
- 25 17. A hook strand of claim 1 wherein the base layer is nonplanar.
18. A hook strand of claim 1 wherein the base layer has a thickness of from 25 to 150  $\mu\text{m}$ .

19. A hook strand of claim 1 wherein the base layer has a thickness of from 25 to 100  $\mu\text{m}$ .

5 20. A method of forming strands comprising the steps of extruding a thermoplastic resin in a machine direction through a die plate having a continuous base portion cavity and one or more ridge cavities extending from at least one face of the base portion cavity, forming a film with a base film portion with ridges, cutting the film on at least one face through the ridges on the at least one face, orienting the cut film portion in at least the longitudinal direction and forming upstanding members and splitting the film between at least some of the  
10 cut and stretched ridges creating the strands.

21. The method of claim 20 wherein the ridges have the profile of a hook such that the upstanding members form hook members

15 22. The method of claim 21 wherein the hook members have engaging arms.

23. The method of claim 22 wherein the ridges are only partially cut.

20 24. The method of claim 22 wherein the ridges have the cross-sectional shape of the hook members such that the orienting of the cut ridges directly form the hook members.

25. The method of claim 22 wherein the cuts are at an angle of from  $30^\circ$  to  $90^\circ$  from the lengthwise extension of the ridges.

25 26. The method of claim 22 wherein the base layer is stretched at a stretch ratio of at least 1.5 and the film is split between substantially all the cut and stretched ridges on the at least one face.

27. The method of claim 22 wherein the base layer is stretched at a stretch ratio of at least 3.0.

5 28. The method of claim 22 wherein the film base portion is cut through on one face and the ridges are partially cut through on the opposite face providing an uncut portion of the ridges which uncut portion forms the strand base layer.

10 29. The method of claim 22 wherein the film base layer is provided with a lip element on at least one face adjacent the ridges on at least one side of the ridges which lips form hook engaging arms.

30. The method of claim 22 wherein the film base layer is provided with ridges on both faces and both faces are cut at least partially through both sets of ridges.

15 31. The method of claim 30 wherein the cuts are fully through both sets of ridges at generally identical spacings and frequency offset by a predetermined distance, wherein the cuts on both faces cut through the base film layer but do not extend through the entire opposing ridge.

20 32. The method of claim 27 wherein the cut through a ridge on one face cuts through at least in part the opposing ridge.

25 33. A composite fibrous web wherein at least some of the fibers forming the web are hook strands where the hook strands have a base layer with at least a first face and a second face with hook elements extending from at least one face in at least one row having hook engaging arms extending at an angle of from 1 to 90 degrees from the longitudinal direction of the strand.

34. The composite fibrous web of claim 33 wherein the web is a nonwoven web with hook strands blended with other fibers.

5 35. A composite fibrous web of claim 33 wherein the hook strand is formed from a thermoplastic resin and the hook engaging arms extend at an angle of from 30 to 90 degrees from the longitudinal direction of the strand.

36. A composite fibrous web of claim 35 wherein the hook strand is formed from an inelastic resin.

10 37. A composite fibrous web of claim 36 wherein the hook strand is formed from multiple layers of thermoplastic resins.

15 38. A composite fibrous web of claim 33 wherein the hook engaging arm extends at an angle of from 30° to 90° from the longitudinal direction of the strand.

39. A composite fibrous web of claim 33 wherein the hook engaging arms extend from two or more faces of the base layer.

20 40. A composite fibrous web of claim 39 wherein the hook engaging arms extend from three or more faces of the base layer.

25 41. A composite fibrous web of claim 40 wherein the hook engaging arms extend from the at least one face in a single row.

42. A composite fibrous web of claim 33 wherein the hook elements are substantially rectilinear.

43. A composite fibrous web of claim 42 wherein the hook elements have two opposing flat faces.

44. A composite fibrous web of claim 41 wherein there are from 10 to 50 hook elements per centimeter.

45. A composite fibrous web of claim 41 wherein there are from 20 to 40 hook elements per centimeter.

46. A composite fibrous web of claim 33 wherein there are at least 5 hook elements per centimeter.

47. A composite fibrous web of claim 33 wherein there are at least 10 hook elements per centimeter.

48. A composite fibrous web of claim 31 wherein the base layer is an oriented thermoplastic resin.

49. A composite fibrous web of claim 46 wherein the base layer is essentially flat.

50. A composite fibrous web of claim 33 wherein the base layer is nonplanar.

51. A composite fibrous web of claim 33 wherein the base layer has a thickness of from 25 to 150  $\mu\text{m}$ .

52. A composite fibrous web of claim 33 wherein the base layer has a thickness of from 25 to 100  $\mu\text{m}$ .